

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (DES)

**TRANSCANADA HYDRO NORTHEAST, INC.
VERNON HYDROELECTRIC PROJECT
(DES WQC # 2006-008, FERC NO. P-1904)**

**RESPONSIVENESS SUMMARY FOR THE
DRAFT SECTION 401 WATER QUALITY CERTIFICATION**

JULY 3, 2006

A. Comments from the Connecticut River Watershed Council (CRWC)

Comment A-1: We are concerned about the limitations of the proposed permit condition E-6 that states: “The Applicant shall continue to monitor for erosion, consistent with the methods used from 1996-2005. The Applicant shall submit an erosion monitoring plan to DES within 90 days of issuance of the amended license, for review and approval by DES. The Applicant shall submit all monitoring results every other year, not later than December 31.”

CRWC feels that the applicant has not taken into account the incremental affect of their operations in conjunction with the Turners Falls and Northfield Mountain projects. CRWC feels that continuing the unilateral monitoring of a small reach of the river for erosion impacts will not help identify nor address any cumulative impact the flow modifications of the three projects have on riverbank erosion along the Connecticut River.

Given that the Vernon project influences the downstream reaches of the river (Findings D-5 and D-10), including erosion forces in combination with the Turners Falls project (Finding D-13 a), this cumulative impact has not been fully addressed by either of the project owners, TransCanada and Northeast Generating Company. Given the potential for such a cumulative impact on that reach of river CRWC asks that the Vernon project owner in cooperation with the other project owner and local groups conduct and analyze surveys of erosion from the Vernon project to the Turners Falls project.

The Applicant response at D-13 c. that their evaluation of the erosion on the island downstream of the dam, “suggests that erosion is consistent with typical geomorphic processes in the Connecticut River watershed” does not apply in this case because the river is not in a typical state and typical geomorphic processes are interrupted by the presence of the Vernon dam. The Vernon dam modifies sediment transport, modifies the river formation forces due to regulated flows unless or until there are flood conditions and the dam causes water level fluctuations to occur in unnaturally quickened time frames as the units come on to produce power under peak demand situations with flows dropping just as unnaturally when the demand for the power lessens.

Permit condition E-6 should be modified so the permit language requires TransCanada to

cooperate with the other project owner, Northeast Generating Company, to develop a plan for addressing erosion on the mainstem of the river. The plan should be submitted to NH DES, Connecticut River Streambank Erosion Committee of the Franklin Regional COG and VT DEC. The plan should detail how the project owners would conduct or collect existing surveys of erosion on the entire reach of river from Vernon to Turners Falls. The permit condition should require a proposal for cooperative remedial actions to be taken by the project owners and interested government and non-government organizations.

Response A-1: *Under Section 401 of the federal Clean Water Act (Act), DES has the authority to review applications for 401 Water Quality Certification (Certification) and issue or deny 401 Certification for a specific activity that may result in a discharge to navigable waters. DES also has authority under Section 401 to require applicants, permittees, or licensees to comply with the requirements of a total maximum daily load (TMDL) study for waterbodies that do not meet water quality standards. Compliance with a TMDL would include specific effluent or operational requirements to attain water quality standards.*

Under Section 401, the activity must comply with state surface water quality standards, adopted and administered under the authority of Section 303 of the Act. It is under Section 303 of the Act that DES has the authority to develop comprehensive plans and recommendations for waterbodies that do not attain water quality standards. This would include all cumulative affects of activities that contribute to violations of water quality standards in a waterbody and would occur through the development of a TMDL study for the waterbody. For example, if the Connecticut River between the Vernon Hydroelectric Project and the Turners Falls Hydroelectric Project was identified as an impaired waterbody for sedimentation, then all potential sources of sedimentation, including Vernon, Turners Falls, and Northfield, would be included in the TMDL. A waterbody must be recognized by DES as category 5-P, and included on the DES 303(d) list of impaired waterbodies before any TMDL is conducted.

The Connecticut River in the immediate upstream or downstream area of the activity is not listed as impaired for any pollutant related to shoreline erosion, although the potential for water quality violations exists. The Applicant is required to develop a monitoring plan to address erosion as a result of the activity, and the Vernon Hydroelectric Project, overall. The monitoring plan will include topographic and hydrographic surveys to document erosion at the Vernon Project. If it is found that the waterbody does not meet water quality standards, the waterbody will be placed on the 303(d) list, after sufficient data are collected, and will subsequently require a TMDL, which would include all other potential sources of water quality standards violations, including upstream or downstream activities. Following development of the TMDL, the owner of a potential source of violations would be required to comply with the requirements of a TMDL, specifically a reduction of pollutant loads associated with the activity.

Comment A-2: The change proposed at Vernon is unusual in that TransCanada is modifying their permit issued in 1992 that was never implemented by the company. The river conditions will be changed from what was proposed then and from the actual flow regime that has been in place since then. So there is a level of uncertainty relative to successful fish passage from what was permitted in 1992 and from actual operations under the new flow conditions. Given this situation CRWC feels that the USF&W Service recommendations are a prudent approach to make sure we understand the affects of the new flow regime on fish passage.

Permit condition E-7 should be modified so the permit language in addition to requiring consistency with the July 1, 1998 Atlantic Salmon Restoration Plan the permit language should include the recommendations and requirements from the USF&W Service in their April 27, 2006 letter to FERC. CRWC shares the USF&W Service concern that “that the previous studies are insufficient to adequately characterize the conditions downstream migrants would experience for bypassing the new units or passing through the new turbines.”

***Response A-2:** The Applicant has addressed the concerns of the U.S. Fish and Wildlife Service relative to fish passage through the “Answer of TransCanada Hydro Northeast Inc. to Motions to Intervene, Protest, Comments, and Recommendations on the Application for Non-Capacity Amendment of the License for the Vernon Project No. 1904”, dated May 15, 2006. DES understands that the Applicant has agreed to conduct downstream fish passage studies, as recommended by USFWS. DES also understands that the Applicant will develop a plan to monitor the effectiveness of the downstream fish passage facilities and will consult DES during the development of the plan.*

B. Comments from the New Hampshire Fish and Game Department (NH F&G)

Comment B-1: We have concerns regarding potential impacts to upstream and downstream fish passage as the new turbines may affect hydrodynamics of the river above and below the project. It is more than likely we will address those concerns through the amendment to the FERC license for the project and will echo the concerns of the US Fish and Wildlife Service for conducting fish passage studies.

***Response B-1:** Comment noted.*

C. Comments from TransCanada Hydro Northeast, Inc. (TransCanada)

Comment C-1: D4 We understand and accept the NHDES position that a new 401 Certification is required.

***Response C-1:** Comment noted.*

Comment C-2: D5 TransCanada agrees that the Activity (proposed re-powering project) causes hydrologic modifications to an otherwise un-regulated, natural hydrograph expected for the Connecticut River. However it further contends that the Activity itself does not alter the historic, regulated operation of the Connecticut that has existed for 97 years at this location.

Response C-2: *Comment noted.*

Comment C-3: D6 As a note of clarification, the upper terminus of the Activity should be considered the upper limit of the Vernon Project which is not the downstream side of the Bellows Falls Dam. The Vernon Project extends 26 miles upstream and the Bellows Falls Station is approximately 31 miles. Only under natural high water conditions can backwater effects can be felt at the base of the Bellows Falls station.

Response C-3: *DES revised finding D-6, accordingly.*

Comment C-4: D10 Again, as a note of clarification, see above with respect to geographic scope. With regards to regulation, the Activity (proposed re-powering) does not alter the historic role Vernon plays in the regulation of the Connecticut River in this location. The Connecticut River within the Activity area is regulated in part by the Vernon Project, but also by the Turners Falls project and the Northfield Pump Storage project which changes tailwater elevation at Vernon constantly. Further regulation is also provided by upstream hydroelectric, flood control and water storage reservoirs. Un-regulated, natural inflow also plays a significant influential role in the flows within the Activity area.

Response C-4: *DES revised finding D-10 to describe the segments of the Connecticut River affected by the activity. DES added finding D-11 to describe the regulation of the Connecticut River in the activity area. The description of the segments and river regulation were originally described together as finding D-10.*

Comment C-5: E3 TransCanada suggests January 31 as the earliest reasonable deadline for providing an annual log of deviations from the approved operating plan so that it can encompass the record through December 31 of each year. We are unclear as to what is meant by "prescribed operating conditions". Is this intended to reference minimum flow requirements identified in Finding D-15 and prescribed in our federal license for Vernon? We anticipate identifying and describing typical or normal operation in the operation plan, such as "the reservoir typically operates between elevation 218 and 220 m.s.l.". This however, is not a FERC license limitation due to needs for emergency power or high water operation, but we could identify periods when this range was exceeded in an annual log of deviations. TransCanada proposes this be more properly described as a deviation from "typical operating conditions" rather than "prescribed".

Response C-5: *DES acknowledges the potential for deviations prior to December 31 and has revised the text accordingly. DES acknowledges "prescribed operating conditions" as the conditions agreed-to in the requisite operations plan to be developed*

by TransCanada, in consultation with DES, VTDEC, NH F&G, and U.S. Fish and Wildlife Service (USFWS), and approved by DES.

Comment C-6: E4 Same question with regard to “prescribed operating conditions”?

Response C-6: DES acknowledges “prescribed operating conditions” as the conditions agreed-to in the requisite operations plan to be developed by TransCanada, in consultation with DES, VTDEC, NH F&G, and U.S. Fish and Wildlife Service (USFWS), and approved by DES.

Comment C-7: E5 We suggest submitting the agency review copies to both NHDES and VTDEC directly.

Response C-7: DES revised condition E-5, accordingly.

Comment C-8: E6 TransCanada understands this condition will require us to file a plan for monitoring and reporting to NHDES on erosion immediately below the Vernon Dam similar to how it currently performs topographic and hydrographic surveys of the east bank and pool located in New Hampshire and reports such bi-annually to the FERC.

Response C-8: The monitoring plan may also include provisions for monitoring the island noted in finding D-14 of 401 Certification 2006-008.

Comment C-9: E8 TransCanada assumes this condition is intended to require rating curves for all turbines at Vernon Station.

Response C-9: DES acknowledges that the assumption is correct and has revised condition E-8, accordingly.

Comment C-10: E11 TransCanada assumes VTDEC will be the approving agency with respect to access points to the project and public waters where such points are located within the State of Vermont. We request clarification.

Response C-10: DES acknowledges that the assumption is correct and has revised condition E-11, accordingly.

D. Comments from the Vermont Department of Environmental Conservation (VTDEC)

Comment D-1: A1. The first sentence is a run-on sentence. Maybe change to "...[owns and operates] owner and operator of the Vernon..."

Response D-1: DES revised the text accordingly.

Comment D-2: A2. Second paragraph has "(Certification)" twice.

Response D-2: *DES revised the text accordingly.*

Comment D-3: A3. See last sentence of section: The current VT WQS are those adopted June 10, 1999.

Response D-3: *DES revised the text accordingly.*

Comment D-4: B1. There are some places where you use "NHDES". So you might want to search and replace with "DES".

Response D-4: *DES revised the text accordingly.*

Comment D-5: C-8. same comment on adoption date for WQS. Also, might say, "...that Vermont adopt and administer water quality standards..."

Response D-5: *DES revised the text accordingly.*

Comment D-6: C-27. typo on line 6: "Inc."

Response D-6: *DES revised the text accordingly.*

Comment D-7: C-28. last line, "...an increase in the temperature of the cooling water." Also, you might do a search and delete from here to the end of the 401 for "Vermont Department of Environmental Conservation" because you already did the VTDEC acronym substitution.

Response D-7: *DES revised the text accordingly.*

Comment D-8: C-30. Sentence should start "A concern over..."

Response D-8: *DES revised the text accordingly.*

Comment D-9: D-2. Suggest commas on either side of "or temporary impacts to"

Response D-9: *DES revised the text accordingly.*

Comment D-10: E-3. Line 5. delete period after "and" You might change the filing deadline from Dec. 31 to January 31 of the following year, just in case there is an event at the end of the year. Also, could you add us: "...submitted annually to DES and VTDEC not later than [December 31 of each year] January 31 of the year following."

Response D-10: *DES acknowledges the potential for an event prior to December 31 and has revised the text accordingly.*

Comment D-11: E-4. Line 6. "...if requested by DES or VTDEC."

Response D-11: *DES revised the text accordingly.*

Comment D-12: E-5. You might have them submit the plan to us so that you won't have to send us a copy. "...shall be submitted to NHDES, copy to VTDEC, for review and approval..."

Response D-12: *DES revised the text accordingly.*

Comment D-13: E-8. To clarify, you might want to say all turbines.

Response D-13: *DES revised the text accordingly.*

Comment D-14: E-10. Could you add submittals to us as well? That way we could provide input if appropriate or discuss jurisdiction in case it's something we should handle instead of DES.

Response D-14: *DES revised the text accordingly.*

Comment D-15: E-11. Suggest splitting the oversight on this one. If the access restrictions are on the VT side, then it probably makes sense to delegate the review and approval to us.

Response D-15: *DES revised the text accordingly.*